AMENDED CLAIM SET

The claims have been amended as follows:

Claims 1-9. (cancelled)

10. (Currently Amended) An apparatus for encoding an audio signal to obtain an encoded audio signal to be used by a decoder having a high-frequency reconstruction module for performing a high-frequency reconstruction for a frequency range above a crossover frequency, the apparatus comprising:

a core encoder for encoding a lower frequency band of the audio signal up to the crossover frequency, the core encoder having a variable ~~the~~ crossover frequency ~~being variable, and the core encoder~~ being controllable with respect to the variable crossover frequency, and operable on a block-wise frame by frame basis; and

a crossover frequency control module for estimating, dependent on at least one of a measure of the degree of difficulty for encoding the audio signal by the core encoder and a border between a tonal and a noise-like frequency range of the audio signal, the crossover frequency to be selected by the core encoder for a frame of a series of subsequent frames, so that the crossover frequency is variable adaptively over time for the series of subsequent frames, the crossover frequency control module being adapted to control the core encoder with respect to the crossover frequency.

11. (Previously Presented) The apparatus according to claim 10, wherein a measure of a high degree of difficulty lowers the crossover frequency, and a measure of a low degree of difficulty increases the crossover frequency.

12. (Previously Presented) The apparatus according to claim 10, wherein said measure is based on a perceptual entropy of the audio signal.

13. (Previously Presented) The apparatus according to claim 10, wherein the measure is based on a distortion energy after coding with said core encoder.

14. (Previously Presented) The apparatus according to claim 10, wherein the measure is based on a status of a bit-reservoir associated with the core encoder.

15. (Previously Presented) The apparatus according to claim 10, wherein any combination of a perceptual entropy of the audio signal, a distortion energy after coding with the core encoder, and a status of a bit-reservoir associated with the core encoder is used to obtain the crossover frequency to be selected by the core encoder for a frame.

16. (Previously Presented) A method for encoding an audio signal to obtain an encoded audio signal to be used when decoding using a high-frequency reconstruction step for performing a high-frequency reconstruction for a frequency range above a crossover frequency, the method comprising:

core encoding a lower frequency band of the audio signal up to the crossover frequency, wherein the crossover frequency is variable, the core encoding taking place on a block-wise frame by frame basis; and

estimating, dependent on a measure of the degree of difficulty for encoding the audio signal in the core-encoding step and/or dependent on a border between a tonal and a noise-like frequency range of the audio signal, a crossover frequency to be selected in the core-encoding step for a frame of a series of subsequent frames so that the crossover frequency is varied adaptively over time for the series of subsequent frames.

17. (Previously Presented) An apparatus for decoding an encoded audio signal, the encoded audio signal having been encoded using a variable crossover frequency, the encoded audio signal including an information on a crossover frequency being variable adaptively over time, the apparatus for decoding comprising:

a bitstream demultiplexer for extracting core decoder data, envelope data and the information on the variable crossover frequency;

a core decoder for receiving the core decoder data from the bitstream demultiplexer and for outputting lowband data having a timely varying crossover frequency;

a high-frequency regeneration envelope decoder for receiving the envelope data from the bitstream demultiplexer and for producing a spectral envelope output;

a transposition module for receiving the information on the variable crossover frequency and for generating a replicated highband signal from the lowband data based on the information on the variable crossover frequency;

a gain control module responsive to the high-frequency regeneration envelope decoder for adjusting the replicated highband signal to a spectral envelope output by the high-frequency regeneration envelope decoder to obtain an envelope adjusted highband signal; and

an adder for adding a delayed version of the lowband data and the envelope adjusted highband signal to obtain a digital wideband signal.

18. (Previously Presented) A method for decoding an encoded audio signal, the encoded audio signal having been encoded using a variable crossover frequency, the encoded audio signal including an information on a crossover frequency being variable adaptively over time, the method for decoding comprising:

extracting core decoder data, envelope data and the information on the variable crossover frequency from the encoded audio signal;

receiving the core decoder data from a bitstream demultiplexer and outputting lowband data having a timely varying crossover frequency by means of a core decoder;

receiving the envelope data and producing a spectral envelope output by means of a high-frequency regeneration envelope decoder;

receiving the information on the variable crossover frequency and generating a replicated highband signal from the lowband data based on the information on the variable crossover frequency by means of a transposition module;

adjusting the replicated highband signal to a spectral envelope output by the high-frequency regeneration envelope decoder to obtain an envelope adjusted highband signal, by means of a gain control module; and

adding a delayed version of the lowband data and the envelope adjusted highband signal to obtain a digital wideband signal.